In a forest ravine, Wingfield Estate, St. Kitts, B. W. I., N. L. Britton and J. F. Cowell, September, 1901, no. 457. Professor Urban would include this plant in *U. Caracasana* (Jacq.) Gaud., but a comparison with numerous specimens of this plant from northern South America, and an examination of Jacquin's figures of *Urtica Caracasana*, in Hort. Schoenbr. *pl. 386* indicates to me that it cannot properly be so referred, and I therefore venture to describe it as above. N. L. Britton.

PROCEEDINGS OF THE CLUB

Wednesday, April 29, 1903

The meeting was held at the New York Botanical Garden with Dr. MacDougal in the chair. Twenty-five persons were present.

The minutes for the two previous meetings were read and approved.

Miss M. A. Parker, 797 Madison Avenue, New York City, and Mr. Macy Carhart, Keyport, N. J., having been duly nominated and the nominations being approved by the committee on admissions, were elected as members of the Club.

Dr. Marshall A. Howe proposed the name of Mr. Homer D. House, of Columbia University, for membership; referred to the committee on admissions.

The resignation of Miss A. May Palmer as a member of the club, having been approved by the treasurer, was accepted.

A letter was read from Mr. M. P. Rich announcing the death of his brother, Dr. Jacob M. Rich. Dr. Rich had long been an honored member of the club and on motion the secretary was instructed to write Mr. Rich, expressing the sympathy of the members of the club and their sense of the great loss sustained.

A letter from Mr. Roland M. Harper was read, asking the club to endorse his application to the Scientific Alliance of New York for a grant of $150.00 from the Herrman Fund, for the purpose of continuing his phytogeographical explorations in the coastal plain of Georgia and adjacent territory with a view to completing the material necessary for publishing a flora of that

region. On motion the application was endorsed as requested, and ordered forwarded to the secretary of the Scientific Alliance.

The first paper of the scientific program was by Dr. W. A. Cannon, "Notes on the Vegetation of Roan Mountain." It was illustrated by numerous herbarium specimens and by a blackboard chart of the region showing the position and relative size of the different plant formations. Of these the author recognizes four: First, the deciduous forests, occupying the lower slopes of the mountains; second, the coniferous forests, balsam and spruce, mostly confined to northern exposures at an elevation of 5,500 feet and above; third, the frutescent or shrub formation lying above the conifers and occupying part of the higher summits; and fourth, the meadows or "balds" covered with grasses and herbaceous plants that occupy the remainder of the high summits.

Roan mountain is situated in extreme western North Carolina, between the Blue Ridge and the Great Smoky Mountains. Its highest elevation is 6,400 feet. It seems to be a meeting place for mists and storms, the summit being veiled in masses of clouds for a considerable part of the time. During the summer of Dr. Cannon's stay on the mountain, there were only eleven entirely clear days during July and but seven during August. This ensures a very moist atmosphere and a cool comparatively even temperature, the average daily range being only 15°. These conditions seem particularly favorable to plant growth, since none of the dwarfing effect on vegetation usually found at high altitudes was observed except on a few areas of very sterile soil. As a rule the plants were as large and vigorous as those found at lower levels.

Extensive lists of the plants characteristic of the different formations were given. It was noted that the rare Gray's lily has become almost extinct and that only a few scattered clumps remain of the local *Sedum Roanense*.

The second paper was by S. H. Burnham, entitled "Observations on Some of the Plants of the Yosemite Valley and Vicinity." The author described a vacation camping trip undertaken by himself and four others, during the summer of 1894. Starting from Stanford University, they crossed parts of the

Coast Range, the great Central San Joaquin Valley and those portions of the Sierra Nevadas in the neighborhood of the big tree groves and the Yosemite Valley. Herbarium specimens illustrating the flora of the different regions traversed were exhibited and detailed descriptions of the different groves of big trees were given. Four distinct forest belts were observed in the Sierra Nevadas. On the higher foothills and up to 3,000 feet, the "digger pine," *Quercus Californica* and *Aesculus Californica* were the prevailing trees. From 3,000 feet to 6,000 feet are found the groves of big trees, *Sequoia Washingtonia* and the Douglass spruce, *Pseudotsuga mucronata*. From 7,000 to 9,000 feet, occur *Picea grandis* and *Pinus contorta*, and above 9,000 feet are *Pinus albicans* and *Pinus aristata*.

Dr. H. J. Webber, of the Bureau of Plant Industry of the Department of Agriculture, was present, and, at the request of the Chairman, he consented to tell briefly of some of the work being done at the Laboratory for Plant Breeding, of which he is in charge. He stated that at Washington, practical problems were considered paramount and those of scientific interest only were given secondary consideration. As illustrating the kind of work that is being undertaken, he took the case of cotton. This is by far the most important crop for most of the Southern states. The ordinary upland varieties have a short staple averaging only three fourths of an inch in length and a green woolly seed that can only be removed by the use of the saw gin. On certain limited areas near the coast, a sea-island cotton is grown having a very fine fiber nearly two and a half inches long and a smooth black seed that can be removed by a roller gin that does not injure the staple. This is the finest cotton in the world, but the boll is small and hard, making it hard to pick, the yield is light, and the plant does not succeed on ordinary uplands. Numerous crosses have been made in the hope of securing a cotton with the long staple and smooth seeds of the sea-island combined with the big round bolls, and the hardiness and productiveness of the upland kinds. Out of over sixty thousand hybrids that have been produced, twelve have been found that approach this ideal type, and the effort is being made by continued selection to fix

these desirable qualities. The results so far attained justify the hope that in a few years more this may be accomplished. The general planting of such an improved variety would mean great good to the entire community since it would assure better prices for the grower and vastly better and more durable fabrics for the consumer. Equally important problems confront the plant breeder for each of the chief agricultural crops, and the laboratory could profitably employ fifty investigators instead of the seven who are now engaged in the work.

Mr. F. S. Earle exhibited plants of the common garden Nasturtium (*Tropaeolum*) that had grown in a box in the window of a living-room during the winter. Dry air and the occasional escape of coal-gas from the stove made the conditions so unfavorable that growth had been feeble and the leaves and petioles had developed a dense coating of rigid white septate hairs. The coating was so pronounced as to make the leaves look as if covered with mildew. When grown under normal conditions the very young leaves show a few scattered hairs as they first unfold, but these at once drop away leaving the plant entirely glabrous.

Mr. R. M. Harper exhibited a flowering plant from the propagating houses of a large *Arabis* grown from seeds collected in southern Georgia. It differs so markedly from any of the known plants of that region that he considers that it is probably a new species.

There being no further business, adjournment followed.

F. S. Earle,
Secretary.

Tuesday, May 12, 1903

The meeting was held at the College of Pharmacy; Dr. H. H. Rusby in the chair.

The minutes of the preceding meeting were read and approved.

Dr. H. D. House, of Columbia University, was elected to active membership.

It was announced that the following persons had been selected by the President to constitute the Field Committee: Eugene Smith, Chairman; George V. Nash, Miss Marie L. Sanial, Miss L. K. Lawall, Edward W. Berry.

The Treasurer's report for the year ending January 14, 1903, was read. It showed receipts amounting to $2,891.74 (not including $67.60 from the former treasurer) and a balance on hand of $327.33. The report was adopted.

The first paper on the scientific programme was by Miss E. M. Kupfer, entitled "Remarks on regeneration in the cuttings of plants." The results of Miss Kupfer's experiments, which were carried on at the New York Botanical Garden, may be outlined as follows:

Baccharis genistelloides, a South American xerophyte devoid of leaves, produced both from lateral buds and at the tip of the main shoot, stems almost without wings and with several well-marked reversion leaves.

In cuttings of *Muehlenbeckia platyclados*, in addition to flat septate branches identical with normal ones except in the production of large hastate leaves, there were developed also one or more perfectly cylindrical leaf-bearing shoots. As the cylindrical branches flattened, the leaves decreased in size. Removing leaves or growing points on these cuttings, induced the appearance of leaves at nodes from which they had previously been absent.

Russelia juncea and *Cytisus purgans*, both normally leafless, produced conspicuous leaves before taking root.

A blade proportionally three times as large as usual was induced on the thorny petioles of two cuttings of *Rubus australis* which took several months longer than the others to start growth.

Sambucus Canadensis produced on cuttings of the first year only entire, bifoliate or trifoliate leaves. In the second season, some leaves had four or five leaflets and none more than five.

Colletia cruciata showed remarkable regressive series from leafless thorns to finely pointed normally leafy branches. On some cuttings a double series, first regressive and then again progressive, appeared. One plant which did not start growth until fully seven months after the others produced a branch totally without thorns, but with unusually conspicuous leaves.

The various theories of regeneration were discussed, and it was pointed out that none so far advanced seemed to cover all of the facts presented. It was suggested that there might be some

connection between the rapidity of regeneration and the character of the organ produced.

Dr. P. A. Rydberg gave the second paper, which was on "Some generic segregates." This is soon to be published in the *Bulletin*.

Both papers were discussed at some length by several members of the club.

W. A. Cannon,
Secretary pro tem.

NEWS ITEMS

Dr. Arthur Hollick recently started for the Yukon region, to make a study of its fossil flora. His route is overland from Skagway to Dawson, thence down the Yukon river to its mouth, with brief stops at points where it is desired to carry on special investigations. This work has been undertaken in connection with the United States Geological Survey.

Professor L. M. Underwood, who has been engaged in field study in Jamaica and Cuba since January, and who had intended to go by direct steamer from the West Indies to England, surprised his family and friends by returning to New York about the middle of May. He sailed for Europe June 6, and intends to spend the summer in England and on the Continent.

The Wild Flower Preservation Society of America held a meeting under the auspices of the Olivia and Caroline Phelps Stokes Fund for the Protection of Native Plants in the museum building of the New York Botanical Garden, Saturday evening, May 16, 1903. Mr. Charles Louis Pollard, of the United States National Museum, delivered an illustrated lecture on "Vanishing Wild Flowers."

Mr. John A. Shafer, Custodian in Botany of the Carnegie Museum at Pittsburgh, who accompanied Dr. and Mrs. Britton to Cuba in March, and remained there after they returned, has reached home. He made extensive collections in the provinces of Havana and Pinar del Rio, and spent some days working upon them at the New York Botanical Garden before returning to Pittsburgh.